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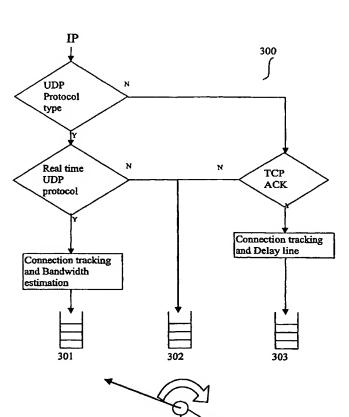
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(54) Title: PROTECTING REAL-TIME DATA IN WIRELESS NETWORKS



(57) Abstract: The invention provides a traffic shaper module allocates more bandwidth to real-time data in wireless TCP/IP networks where accessible bandwidth is limited. This is particular relevant for IEEE 802.11b networks. For downstream data, the traffic shaper module can be set to control the transmission to all clients and thereby give priority to the port carrying real-time data. For the upstream case, data transmission from all kinds of standard devices is to be reduced or delayed. Hence, the data transmissions from other clients have to be controlled remotely from the access point. By delaying or discarding packets, such as TCP acknowledgements, to other clients, the traffic shaper module artificially increases their Round Trip Time (RTT). The protocol at these clients responds to the increased RTT by transmitting data at a lower rate, thereby leaving more bandwidth for the real-time data port.



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A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H04L12/64 H04L H04W21/34 H04L12/28 H04L12/56 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 HO4L HO4W Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Citation of document, with indication, where appropriate, of the relevant passages Category 9 1-7 WO 02/33909 A (CUNY RENAUD ; NOKIA CORP X (FI)) 25 April 2002 (2002-04-25) page 3, line 17 - page 4, line 9 page 11, line 8 - line 18 page 14, line 14 - line 18 page 14, line 23 - line 25 figures 1,5 WO 99/04536 A (NOKIA TELECOMMUNICATIONS OY 1-7 X : MA JIAN (FI)) 28 January 1999 (1999-01-28) page 9 page 17, line 21 - line 31 -/--Further documents are listed in the continuation of box C. Patent family members are listed in annex. Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention *E* earlier document but published on or after the International "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to filing date involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. citation or other special reason (as specified) O document referring to an oral disclosure, use, exhibition or document published prior to the International filing date but later than the priority date claimed "&" document member of the same patent family Date of malling of the International search report Date of the actual completion of the international search 04/11/2004 22 October 2004 **Authorized officer** Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Eraso Helguera, J Fax: (+31-70) 340-3016

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